Substitute specification approved for entry
CW
10/12/07

BEARING FOR AXIALLY MOUNTING A ROTOR OF A GAS TURBINE, AND GAS TURBINE

CROSS REFERENCE TO RELATED APPLICATION

[001] This application is the US National Stage of International Application No. PCT/EP2004/004175, filed April 20, 2004 and claims the benefit thereof. The International Application claims the benefits of European Patent applications No. 03011741.0 EP filed May 23, 2003, all of the applications are incorporated by reference herein in their entirety.

FIELD OF THE INVENTION

[002] The invention relates to a bearing for axially mounting a rotor of a gas turbine, having a rotationally fixed bearing body which has a hydraulic piston arrangement for axially displacing the rotor from a first operating position into a second operating position, and having a hydraulic system fluidically connected to the hydraulic piston arrangement. The invention also relates to a gas turbine having such a bearing.

BACKGROUND OF THE INVENTION

[003] Bearings of the aforesaid type are known per se from the prior art. The bearing body of annular design preferably surrounding the rotor of a gas turbine serves for the arrangement of a plurality of hydraulic pistons. The latter are mounted against stop surfaces formed on the rotor, so that the rotor is supported in the axial direction.

[004] Such a bearing for displacing the rotor of a gas turbine has been disclosed by US 2002/0009361. Once the gas turbine and its rotor have completely warmed up and thus the temperature-induced material expansions have stopped, the rotor is displaced by means of the bearing from a first operating position into a second operating position against the direction of flow of the hot working medium. As a result, in the turbine unit, the radial gaps formed between the moving blade tips and guide rings opposite the latter are minimized, so that a higher power output of the gas turbine is achieved and the losses via the moving blade tips are minimized.

[005] The failure of hydraulic medium when the rotor is already arranged in the second operating position causes the rotor to be pushed back into the first operating